No further report of the storm has been received,[2] and its origin and path remain unknown. Pressure at Midway Island, Honolulu, and Hilo remained normal. Although there was simultaneously an area of low pressure in Alaskan waters, pressure records at Midway Island and Honolulu and from ship reports indicate that there was no break in the belt of high pressure in middle latitudes. It does not seem probable, therefore, that this storm was in any way influenced in its origin by the northern LOW, as frequently appears to be the case with the winter storms known as "Konas." The storm may, however, have moved northward and merged with the northern LOW on the 22d, since the observations on the afternoon of the 21st and the morning of the 22d indicate that the center of high pressure had moved eastward, and that the Alaskan LOW had extended southward a considerable distance between the 150th and 160th meridians.

Visher[3] found a record of 70 tropical cyclones occurring in the northeast Pacific between the years 1832 and 1922, only 7 of which are recorded west of the 155th meridian, west longitude, and all of these occurred in October, November, or December. The present storm of independent tropical origin thus appears to be unique in this part of the ocean at this season of the year.

[2] See review of weather over the North Pacific Ocean.

[3] S. S. Visher, MO. WEATHER REV., 50: 295, 296.

DETAILS OF THE WEATHER IN THE UNITED STATES.

GENERAL CONDITIONS.

By ALFRED J. HENRY.

The weather of the current month was not greatly different from that of the preceding month; perhaps its distinguishing characteristic was a rather decided increase in barometric pressure both above the normal and as compared with the preceding month. This increase can be traced back to the movement of anticyclones which apparently originated either in the Canadian Northwest or in the bordering States of the Union—Montana and North Dakota. Like the preceding month, the high temperature normally expected in August, especially in northeastern district, was characterized by alternating periods of cool weather. The usual details follow.

CYCLONES AND ANTICYCLONES.

By W. P. DAY.

Low-pressure areas were typical of the month of August, with centers of minimum pressure moving along the northern border or in southern Canada and often with secondary developments over central districts along the line of demarcation between the northerly and southerly components of the wind.

The approach of the winter season was heralded by a marked increase in the number of high-pressure areas of the so-called Alberta type. Seven of these cooler masses of air moved down from the Canadian Northwest, while eastern Canada, which had been so prolific in HIGHS during July, produced none.

FREE-AIR SUMMARY.

By L. T. SAMUELS, Meteorologist.

The Broken Arrow aerological station was situated, during the month, in the region of largest positive temperature departures as shown on Climatological Chart III. This affords opportunity for observing the extent to which such departures prevailed in the free air. It will be noted from Table 1 that the departures at this station decrease with altitude becoming opposite in sign at the highest levels. During the hot period which occurred in this section the first part of the month absolute record temperatures were observed at this station from the surface to 1,000 meters above. At Groesbeck previous August high temperatures were exceeded from the 1,000 to the 2,000 meter level during this period. At Ellendale, where surface departures were appreciably negative, the higher levels showed a persistence in this respect, although of smaller magnitude. The cold wave of the 22d brought temperatures lower than during any previous August since the establishment of the stations at Ellendale and Royal Center from the surface to 2,000 meters above. During this period the largest departure from the normal (15° C.) was found at the 1,000 meter level at Ellendale.

Humidities averaged generally above normal at Drexel and Ellendale and below at the other stations.

Vapor pressure departures were negative except at Drexel and the lower levels at Due West and the upper levels at Broken Arrow and Ellendale.

The resultant winds are shown in Table 2, and of particular interest among these are Ellendale and Royal Center where the northerly component for the month predominated instead of the normal southerly. This is in harmony with the negative temperature departures found at those stations. Pilot balloon observations at Groesbeck showed a persistent turning of the winds with altitude to easterly above 3,000 meters from the 1st to the 24th. During the remainder of the month the winds at these upper levels changed to westerly. This undoubtedly indicates the transition from summer to autumn conditions with the southward migration of the thermal equator. During this transition period we would expect to find light winds to considerable altitudes and that this occurred is shown by the interesting pilot balloon observation obtained at Groesbeck on the 24th. The balloon was observed with two theodolites for 81 minutes, at the end of which time the computed height was 15,360 meters. This is the highest two-theodolite observation on record in this country, and it is of special interest in that it indicates such excellent agreement with the assumed ascensional rate used in single-theodolite work. The assumed rate would have given 15,670 meters, or only 310 meters higher.

Numerous other two-theodolite observations obtained during recent months extending nearly to this height give assured evidence that single-theodolite observations are strikingly dependable to these great heights. In the lower levels, however, especially during the early after-